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VB

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/084,542	05/26/98	VITE	LD125B

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EXAMINER

COLEMAN, B

ART UNIT PAPER NUMBER

1624

13

DATE MAILED: 03/14/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/084,542

Applicant(s)

VITE et al.

Examiner

Brenda Coleman

Group Art Unit

1624



☒ Responsive to communication(s) filed on Dec 19, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-6 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-6 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1624

DETAILED ACTION

Claims 1-6 are pending in the application.

This action is in response to applicants' amendment filed December 19, 2000. Claim 1 has been amended.

Response to Arguments

Applicant's arguments filed December 19, 2000 have been fully considered with the following effect:

1. With regards to the request for the journal articles cited on the applicants' 1449. The journal articles are not readily available. It was requested that the applicants provide a legible copy of each publication for consideration. The journal articles listed on the 1449 are not available and are herein requested.
2. With regards to the improper Markush rejection of claims 1-6 of the last office action, the applicants' arguments have been fully considered but are not found persuasive. The applicants stated that "in addition to the common utility of the recited compounds referred to as epothilones, these compounds also share a common structural feature that is key in this class of compounds, which are known as cytotoxic agents". The mere fact that the ring has 16 members is not sufficient, i.e. Cryptophycins have 16 ring members. It is maintained that the resulting total number of compounds lack a common core with respect to the definitions of W, Z₁ and Z₂. The

Art Unit: 1624

compounds are structurally diverse and patentably distinct. Limitation in the definition of W, Z₁ and Z₂ suggested to overcome this rejection.

Claims 1-6 are rejected as being an improper Markush grouping. For reasons of record and stated above.

3. With regards to the 35 U.S.C. § 112, first paragraph rejection of claim 4, the applicants' remarks concerning the enablement of "cancer" is acknowledged but not found persuasive. The applicants stated that "the Patent Office bears the initial burden of setting forth a reasonable explanation as to why it believes that the scope of protection provided by that claim is not adequately enabled by the description of the invention provided in the specification". The applicants' also stated that "the Office Action does not present any proof that would lead one of skill in the art to doubt the objective truth as to the utility of the claimed compounds in the treatment of cancer". Where structure sensitivity exists (in the pharmaceutical art) degree of testing must be representative of claims' scope. Note *In re Fisher* 166 USPQ 18; *In re Surrey* 151 USPQ 724. The recent journal article, i.e. Balasubramanian (1998), provided herein indicates that the "successful treatment of adult solid tumors **remains** a formidable challenge".

Balasubramanian indicates that antimicrotubule anticancer agents such as paclitaxel and docetaxel "have consistently shown impressive activity in advanced cancers of the ovary, breast, lung, esophagus, bladder and head and neck" (page 151). It is also indicated that few microtubule formation inhibitors "show potent *in vitro* activity against human breast, ovarian, colon, and lung

Art Unit: 1624

cancer cell lines”. “Few compounds which bind to the colchicine binding site of tubulin have activity against *in vivo* solid tumor models”.

Evidence involving a single compound and two types of cancer was not found sufficient to establish the enablement of claims directed to a method of treating seven types of cancer with members of a class of several compounds *In re Buting* 163 USPQ 689. The remarkable advances in chemotherapy have seen the development of specific compounds to treat specific types of cancer. The great diversity of diseases falling within the “tumor” category means that it is contrary to medical understanding that any agent (let alone a genus of thousands of compounds) could be generally effective against such diseases. The intractability of these disorders is clear evidence that the skill level in this art is low relative to the difficulty of the task.

Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. For reasons of record and stated above.

4. The applicant’s amendments are sufficient to overcome the 35 U.S.C. § 112, second paragraph rejections labeled a), b) and c). However, with regards to the 35 U.S.C. § 112, second paragraph rejection labeled d) of the last office action, the applicant’s remarks have been fully considered but they are not persuasive.

Art Unit: 1624

- d) The applicants' stated that the "it is known to those skilled in the art that inhibition of angiogenesis arrests cellular proliferation". If angiogenesis is such an art recognizable term, how is it that there is no listing of "angiogenesis" in the Cecil Textbook of Medicine or Modern Pharmaceutics. It is unclear which diseases are mediated by antiangiogenic effect. Determining whether a given disease responds or does not respond to such an inhibitor will involve undue experimentation. Consequently, determining the true scope of the claim will involve extensive and potentially inconclusive research. Without it, one skilled in the art cannot determine the actual scope of the claim. Hence, the claim is indefinite.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For reasons of record and stated above.

5. With regards to the 35 U.S.C. § 102, anticipation rejection of claims 1 and 4-6, of the last office action, the applicants' arguments have been fully considered but are not found persuasive. The applicants stated that "the present application clearly excludes compounds wherein W is O, G is a 1-methyl-2-(substituted-4-thiazolyl)ethenyl moiety, and R₃, R₄ and R₆ are methyl substituents". However, Balog teaches compounds where R₆ is hydrogen.

Claims 1 and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Balog et al., Tetrahedron Letters. For reasons of record and stated above.

Art Unit: 1624

6. With regards to the 35 U.S.C. § 103, obviousness rejection of claims 1 and 4-6, of the last office action, the applicants' arguments have been fully considered but are not found persuasive. The applicants stated that "the smallest quantum of change significantly affects the activity of epoethylone derivatives". With regards to unexpected properties of the instant invention, for proper consideration of the information provided in the response to the last office action the information must be presented in declaration form.

Claims 1 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofle et al., WO 97/19086. For reasons of record and stated above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Coleman whose telephone number is (703) 305-1880. The examiner can normally be reached on Monday thru Friday from 9:00 AM to 5:30 PM.

The fax phone number for this Group is (703) 308-4734 for "unofficial" purposes and the actual number for **OFFICIAL** business is **308-4556**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1235.


Brenda Coleman
March 10, 2001